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Territorial Resources in the Province of Al Hoceima Between Undervaluation and Territorial Development Issues Case: of the Commune Abdelghaya Souahel

Iliass Bouhlal[1,*], Bilal Chaichai[1], Hamid Benssi[2], Abdennour Sadik[3], Mouhcine Batchi[2] and Salim El Mansouri[1]

[1]Department of Geography. Laboratory of Territories, Environment, and Development. Faculty of Human and Social Sciences – Ibn Tofail University, Kénitra. Morocco; [2]Professor researcher, Department of Geography. Faculty of Human and Social Sciences - Ibn Tofail University, Kénitra. Morocco; [3]Professor researcher at Ecole Normale Supérieure, Mohammed V University, Rabat, Morocco
*Corresponding author's e-mail: ilyass.bouhlal@uit.ac.ma

This study aims to address the problem of the deterioration of territorial resources in light of the spatial dynamics in the Rif Mountains and the resulting constraints that hinder the path of sustainable development, which are mainly linked to natural factors and the accelerating rate of deterioration of land resources, and to human factors such as the intensive exploitation of a narrow and limited area and the increasing reverse migration towards the studied area.Through which we have achieved several results, namely: The study area has various human and natural resources as well as a very important strategic location. Valuing these resources will contribute to achieving sustainable development and revitalizing the local economy. However, these vulnerable resources are subject to intensive exploitation due to their vulnerability and they are not mobilized and valued adequately, which has negative repercussions on the economic and social situation of the population. Added to this is the traditional and irrational exploitation of territorial resources, which leads to an acceleration in the pace of environmental deterioration, such as the uprooting of forests and the spread of kif cultivation. So, what are the territorial resources available in the study area? and to what extent are they capable of achieving sustainable development?
Keywords: Territorial resources - kif culture - Abdelghaya Souahel commune - territorial development.

INTRODUCTION

Territorial resources are considered an essential pillar of local development, because they control the issues and prospects for future development. They include natural, human and economic resources, as well as all material and immaterial elements.

According to Pecqueur and Colletis, each territory is composed of two categories of resources, generic resources and other specific ones. The first category refers to elements that can be exchanged and sold on a market, so their relocation is easy from one geographical area to another. The second category represents things that are strongly linked to the territory where they are developed (Colletis and Pecqueur, 2018).

To varying degrees, then, geographers have insisted that resources are hybrid forms, socionatures that are neither purely natural nor purely social (Swyngedouw, 1999). The concept of resources will take a new turn when it becomes one of the goals of community development, as its meaning goes beyond just material things. To being a system that can be understood as a resource for development (Levy and Lussault., 2003).

From this point of view, the study of territorial resources is considered a fundamental area of geographical, economic and social literature, since it is the responsibility of the institutions that supervise the planning of the national territory. Also, studying a territorial space with all its material and immaterial components allows us to understand and study a specific territorial space and to highlight the extent of its spatial components.

The Rif Mountains are part of the marginal areas in Morocco. These regions are currently facing major challenges mainly related to low levels of human and social development and significant degradation of the natural environment (Boujrouf, 2014). Our field of study, like other mountainous regions, faces a set of challenges that constitute an obstacle to rural development, as the region is characterised by complexity,

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microscopic exploitation, environmental, social and economic imbalances, in addition to demographic pressure and the expansion of the agricultural sector at the expense of forest lands.

The commune of Abdelghaya Souahel, has unique resources that can constitute a major lever for local development if they are exploited within the framework of local projects. Among the resources it has, we find the diversity of its natural scenes, its human energy dominated by the working class, in addition to its economic resources, and the richness of its tangible and intangible heritage. However, these resources remain unmobilized and lack a land project around which to structure themselves. This negatively impacts the standard of living of the population, which suffers from delayed development, exclusion and marginalization.

Methodology and research tools: The problematic relationship between two main variables (terrestrial resources and sustainable development) requires us to adopt modern techniques and means to analyze the research problem. Because combining the method with modern techniques and means is considered a basic pillar for serving geographical research. The nature of the subject we discussed required the adoption of the following two approaches:

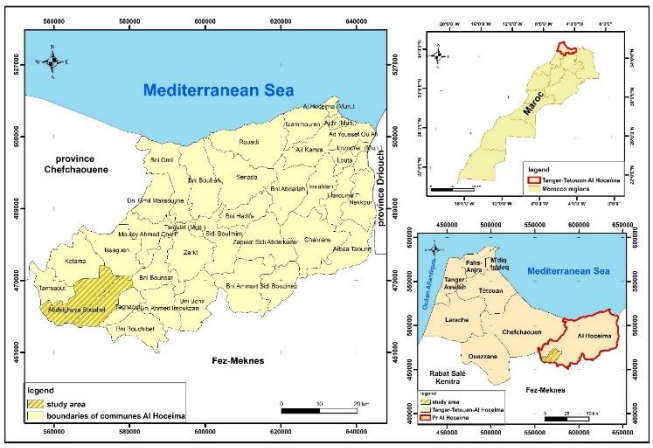
Documentary approach: It consists of using a set of studies and academic research on the study area in general, as well as reports and administrative documents that we obtained from different administrations, in addition to legal texts and references related to the subject.

Descriptive approach: by examining different aspects related to territorial development in the area covered by the study, and especially evaluating the results of development from official documents. In addition to describing the forms of environmental degradation.

Modern technologies used in the preparation of maps were relied upon in order to create a cartographic database, where geographic information systems programs were relied upon in this context. The problem revolves around the extent to which it is possible to rehabilitate and develop mountainous areas, which have remained for long periods on the margins and isolated from the dynamism of development. So, how to enhance the value of territorial resources in the study area and transform them into opportunities to achieve sustainable development.

study area: The commune Abdelghaya Souahel is located in the central high Rif, was created in 1992 following the administrative division in this period. It belonged to the Ketama tribe which belongs to the Confederation of "Senhaja Sraîr", It extends over a total area of 245 Km2. Its limits with the other communes are as follows:

- North: Commune Issaguen;
- South: Province (Taounate);
- East: Communes Taghzote and Bni Bounsar;
- West: Commune Tamsaout.



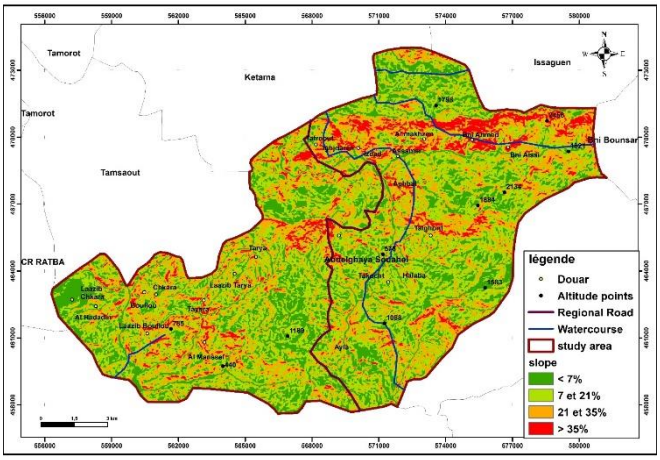
Source: administrative division in 2015

Figure 1. Location of the study area

***Territorial diagnosis of the commune Abdelghaya souahel*:** The development process on the ground begins from a study and diagnosis to determine the abundant qualifications in this space, and thus to detect and overcome the obstacles that prevent its development. The territorial diagnosis is a collective approach that aims to comprehensively understand all the components of a territory to give it meaning and characterize realistic prospects for local development.

In this context, natural and human resources play an important role in all development plans, whether linked to national or regional plans. It is known that human and natural data constitute the basis on which studies related to planning are developed, which lead to the preparation of development programs.

***Reliefs*:** Abdelghaya Souahel is located in the heart of the Rif Mountain range. It is characterized among other things by a relief of high folded and isolated mountains.



Source: Digital Terrain Model (MNT) 2024

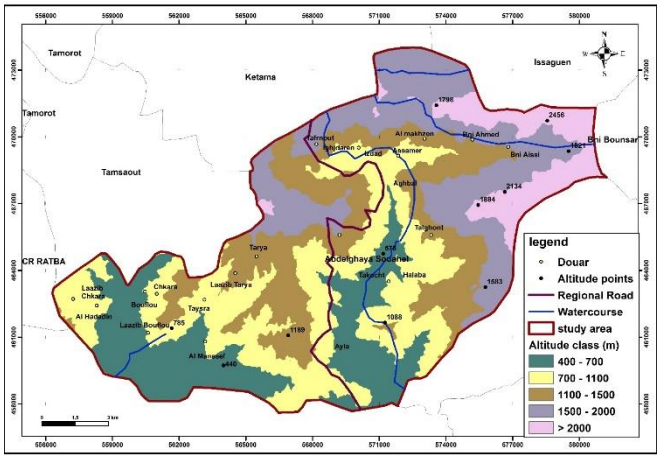
Figure 2. Map of the slopes of the commune of Abdelghaya Souahel

They are formed of resistant rocks such as (Boudouah, 1985): limestone and quartzite, tracing a discontinuous line of ridges and of general orientation West - East. Jbel Tidighine represents the peak of the Rif chain, with its 2456 meters of altitude. The entire landscape is marked by deeply incised valleys. The slopes of this region have always been exposed to mass movements which often lead to the loss of part of the natural resources and plants, and a very high cost of their maintenance (EL Fellah and Mastere, 2015).

The slope system of the Rif Mountains is complex, marked by very steep slopes (nearly 62% of the total surface area of the commune of Abdelghaya Souahel has slopes greater than 40%) (Maurer, 1968a).

***Relief Units*:** The Rif forms a hydrographic dispersion line, with a very clear asymmetry between the internal slope (north-west) and the external slope (south or west) (Thauvin, 1971a). In the Rif chain itself, the plains are practically non-existent, except for the coastal alluvial zones, the most important of which are, in order, those of the Nekor wadi (Al-Hoceima region), that of the Martil wadi (Tetouan region) and that of the Lao wadi. For the entire Rif domain, the surface area of the plains does not exceed 2% in total (700 km2 out of approximately 32,000 km2) (Thauvin, 1971b).

The Ketama unit is made up of syn-rift sediments dated from the Middle Liassic to the Dogger. The post-rift sediments of the African margin were deposited from the Upper Jurassic to the Lower Cretaceous (Romagny, 2014). Finally, a whole set of terrains ranging in age from the Paleozoic to the Middle Miocene were thrust outwards and today constitute the various Rif nappes (Michard, 1976).



Source: Digital Terrain Model (MNT) 2024

Figure 3. Hypsometric map of the commune of Abdelghaya Souahel.

The Ketama Massif is a classic region of the geology of the central Rif. It represents the central part of the external Rif. The Tangier - Ketama unit was defined in 1959 by "Durand - Delga and Mattauer" as two distinct structural sets whose stratigraphic series complement each other. This led to considering the Tangier unit as the detached cover of the Ketama unit.

The units of the commune of Abdelghaya Souahel are divided into three groups of Relief, which are mountains, depressions and hills. It has two homogeneous sections in height:

- The Northern section: contains the highest units, such as Jbel Aloul 1789 m, Jbel Takanet 1818 m, Jbel Tidgin 2456 m.
- The Southern section: consists of lower mountain units, Jbel Al-Monsef 772 m, Jbel formed 853 m, Jbel Dalma Al-Bakour 1016 m.

Thus, we note that the field of study is the set of high peaks between 772m and 2456m, next to which are closed depressions surrounded by hills.

It's often-sharp peaks, its cliffs and its generally light color contrast with the rest of the landscape. In general, this diversity of topography leads to a great variability in the potential of water resources.

***Geology: A complex geological structure*:** The mountainous geosystem of the Rif is considered one of the most sensitive regions to degradation processes. The strong altitudinal gradient, the complexity of the slope system, the strong structural compartmentalization, the predominance of soft rocks, the great variability of the climate, the strong instability of the soils and the very reduced forest cover, together make this area, naturally, very vulnerable, particularly in the face of climate change and, thus, has a high potential from the point of view of degradation (AL Karkouri, 2017).

Towards the east, the Neocomian appears at the bottom of the valley of the Sra wadi towards the Bab Bagla gorge, under the powerful series of quartzitic schists and sandstones of Apto-Albian age, which forms the crests of the Safirirene jbels (1730 m), the Imaou Chabane jbel (1798 m) and the Koudiet Tirhirhine jbel (2448 m). This is a highly tectonized sector whose structures are clearly visible in the competent Albian series (Asebriy, 1994).

Further south, towards Beni Hassan, we notice a lateral facies passage in the Apto-Albian which gradually becomes poorer in quartzites to show a predominantly pelitic lithology with fairly rare sandstone beds. This facies outcrops widely along the southern front of the Ketama unit, we thus notice a certain opposition of facies between the schist-sandstone Apto-Albian senes of the northern part, and pelitic of the southern part of the unit (Asebriy, 1994).

Les phases tectoniques tertiaires transforment le géosynclinal rifain en un orogène complexe, beaucoup moins large que le domaine paléogéographique initial, à cause des plis et surtout des chevauchements multiples. Les mouvements tardifs nous rendent observable, en la soulevant en montagne, une grande partie de l'orogène, mais ils escamotent le reste sous les eaux de la Méditerranée (Michard, 1976).

***Difficult climatic conditions*:** "In general, agricultural activity has two enemies: cold and drought. They constitute real limiting factors, preventing any cultivation over vast areas of the planet" (Diry, 1999).

In this sense, the climate of the commune Abdelghaya Souahel is characterized by the particularities of the Mediterranean climate, characterized by harsh and rainy winters and hot and dry summers (Action plan of the Abdelghaya Souahel Commune 2017-2022). This type of climate has undergone a double influence: that of the sea and that of the mountain. This geographical location is at the origin of the microclimates that the region of Kif knows (Boudouah, 1985).

The climate It is directly affected by the quality of the prevailing terrain, as the temperature decreases as one advances towards the summit, and increases as the altitude decreases. The quality of the terrain of the region, which is characterized by the presence of significant elevations exceeding 2000 meters above sea level, is reflected in the temperature of the municipality, especially during the winter season, when the temperature drops to its lowest levels. The altitudes are also reflected in the quantity and quality of precipitation, as they also increase according to the heights, which can exceed 1200 mm.

Table 1. Monthly distribution of rainfall at the Abdelghaya Souahel station from 2014 to 2017.

Months	2014	2015	2016	2017
January	145,2	115	4	101,7
February	109	57,4	149	183
March	89	40,8	8	25
April	76	59,2	94	113
May	32	112	0	14
June	15	2,5	0	0
July	0	0	0	0
August	24	0	12	8
September	10	24	0	38,5
October	13,5	82,3	27	162,8
November	224	12	129	223
December	216	0	54	12,7
Total	953,7	505,2	477	881,7

Source: Water and Forest Center of the commune Abdelghaya Souahel 2019

Rainfall is a determining factor, as almost 91% of crops are grown in Bour. It can be concluded from the table above that the amount of precipitation varies according to the months of the year and also between years, as we see that the period between October and April in 2017 recorded the highest amount of precipitation, reaching 821.2 mm of the total annual precipitation, while the period from July to September is a dry period, in which the amount of precipitation does not exceed 46.5 mm. It is also noted within these years clear contradictions from one month to another, where the month of November records the highest rate of 223 mm, followed by the month of February and then the month of October, a contradiction also valid for the dry period.

Table 2. Temperature of the commune Abdelghaya souahel Year 2018.

Month	Maximum Temperature (°C)	Minimum Temperature (°C)	Temperature Medium (°C)
January	7,4	0,2	3,8
February	8,1	2	5,05
March	11,3	2,4	6,9
April	14,6	5,6	10,1
May	16,2	8	12,1
June	26	12	19
July	30,1	14,2	22,15
August	28	11	19,5
September	21,1	13	17,05
October	15,3	7,4	11,35
November	14	6	10
December	9,2	1	5,1

Source: Water and Forest Center of the commune Abdelghaya Souahel 2019

The maximum temperature of the commune Abdelghaya Souahel reaches 30,1°C in July due to the predominance of dry climate during the summer season, and also the consequence of the Chergui wind, on the other hand the minimum temperature reaches 0,2°C in January during the winter season which is rainy and temperate.

***Water resources*:** The study area has a variety of water resources, but they are not exploited as needed, particularly the valleys of SRA, AMZAZ, ZEGARA and Oued Beni Issi.

***Surface water resources*:** The main valley that crosses the entire Ketama region has its source in the northwest facade of Tidighine, and this valley receives different names depending on the places it crosses, since it is called wadi of Zegara from its source to the borders of telata of Ketama, and here it meets small tributaries and is called wadi Ketama, until it reaches Douar Takoucht, where it takes its name known on the Moroccan map, namely: Oued SRA.

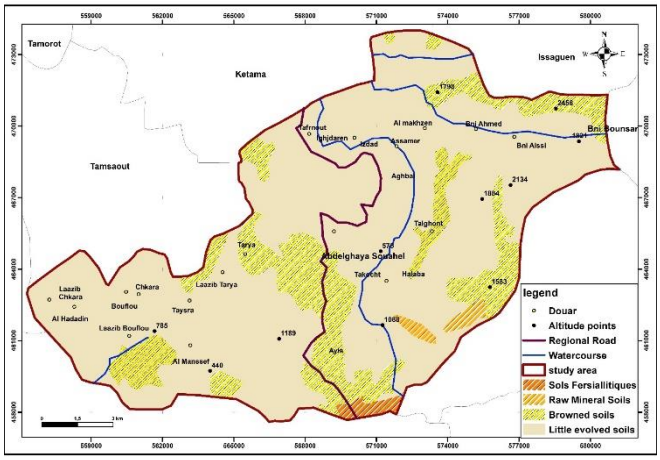
Oued SRA is considered one of the most important tributaries of the Ouerrha basin (Maurer, 1968b). However, its output varies from the rainy season to the dry season, depending on the precipitation, whether rain or snow.

***Groundwater resources*:** The south of the ketama unit contains very few springs; on the other hand, the northern edge often contains a fairly large number of small springs, whose flow rates range between 0.1 and 2 l/s approximately (Thauvin, 1971a), and which are most of the time perennial, especially when rainfall is favorable.

The study area is generally dominated by clayey and inductive formations, which are generally weak to non-permeable rocks, which makes it difficult for water to leak and limits the

formation of aquifers, and for this reason the role of groundwater remains limited in terms of irrigation and drinking water.

Soils: The soil is the surface part of the earth's crust, it has mineral constituents coming from the alteration of the parent rock, organic constituents coming from the decomposition of living beings. The soil is the support for all economic activities and a determining potential for agriculture.



Source: Anti-erosion development plan for the Oued SRA watershed 1994

Figure 4. Soil map of the commune of Abdelghaya Souahel.

In the study area, the soils are very varied, we find Fersiallitic soils, Raw Mineral Soils, Browned Soils, and Little evolved soils. These soils are fragile and very exposed to erosion. (Chaaouan *et al*., 2013).

The national report on Sustainable Development Indicators of the Department of the Environment recognizes that "soils in Morocco are subject to erosion and degradation at rates exceeding international standards." Water erosion affects more than 10 million ha, particularly in the north in the Rif Mountains (Akesbi, 2014). Namely, Maamoura, the results obtained indicate a low soil loss on average 2.6 t/ha/year (Batchi, 2010).

Soil degradation in the municipality is linked to several factors: the rainfall regime, the nature of the relief where steep slopes and long slopes predominate, the vulnerability of the soils and the geological substrate, the precariousness of the plant cover (El-Ommal and Tribak, 2023), but also and above all the strong demographic pressure on resources and the archaic nature of the cultivation techniques and practices (slash and burn, cannabis cultivation on slopes, etc.) and traditional livestock farming.

***The forest and the scrubland*:** The study area has a diverse forest wealth, which over the centuries have played fundamental environmental, social and economic roles in local development. (The area was known for the presence of dense forests Everywhere high forests dominated by oak, pine, cedar. It is necessary to see with what activity the population exploits the forest wealth, the large trees are felled, cut, shipped to Tangier, Tetouan, and, from there, to Europe (Auguste, 1899).

Table 3. Types of forest cover in the commune of Abdelghaya Souahel.

Commune	Abdelghaya Souahel
Cedar (Ha)	1750
Cork oak (ha)	1560
Holm oak (ha)	500
Maritime pine (Ha)	300
Secondary voids and species	1088
Total Ha	5198

Source: Ikaouen Forest Resources Conservation and Development Center 2019

Through the table, we notice that the area of the forest cover of the commune of Abdelghaya Souahel is estimated at 5198 hectares, and these forest varieties are dominated by cedars and cork oaks.

The forest in the study area provides a space conducive to the life of a group of wild animals. Among the mammals, we find for example: wild boar, jackal, fox and wild cat. Among the reptiles, we find the mountain viper, in addition to various types of snakes and turtles.

As for birds, the golden eagle, the woodpecker, the owl, the black-headed nightingale, the wild partridge, the dove and the quail top the list of birds that live in the commune (Action plan of the Abdelghaya Souahel Commune 2017-2022).

However, these areas are subject to excessive, damaging, essentially anthropogenic pressures. While these actions are part of a local practice dictated by socio-economic constraints, other practices act more in the direction of more pronounced degradation of the forest (EL Mazi et al., 2019).

The agricultural areas are being expanded and exploited for the cultivation of Indian cannabis by the locals through uprooting and burning, as the years 2009 and 2018 witnessed serious fires in the study area, the number of which reached 53 fires that led to the destruction of more than 250 hectares and more than 4,000 violations were recorded against the locals.

***Tourism*:** Tourism occupies an important place in the national economy and its contribution to the development of the economy through the consumption of products and services offered to tourists and the provision of employment directly and indirectly. (Vera and Jürgen, 2015).

The study area has important tourist qualities, represented by a group of high mountain ranges, in addition to a diversified natural forest wealth, which houses an important and diversified animal wealth.

However, the reality of tourism in the municipality is not up to the potential it embraces, due to the absence of a real

government policy to develop this type of mountain tourism, in addition to the deterioration of the paths and the weakness of tourist facilities.

***Human resources in need of rehabilitation and training*:** According to the General Population and Housing Census in 2014, the commune has 25,817 inhabitants representing 4,140 households. This population is divided into 47,6% women and 52,4% men (High Commission for Planning, Provincial Service of ALHOCEIMA 2019).

The population density is 105 inhabitants/km². The commune of Abdelghaya Souahel belongs to the Ketama tribe, and is divided into two groups: the Abdelghaya group (Berber) and the Souahel group (Arabized).

Table 4. Demographic evolution of the territorial community Abdelghaya Souahel.

Years	Population	Average annual population growth %
1960	6791	-
1971	8998	2,45
1982	12213	2,63
1994	19494	3,73
2004	24013	1,88
2014	25817	0,70

Source: R.G.P.H, Year 1960, 1971, 1982, 1994, 2004, 2014.

The Abdelghaya Souahel territorial community occupies first place at the rural level in terms of population in the province of Al Hoceima.

According to the results of the general census of population and housing, we conclude that the rate of population growth has experienced an increase up to the limits of the 2004 census, then this percentage began to decline, and the average growth recorded at the level of the municipality is very high, especially in the censuses of 1982, 1994 and 2004, as we find the highest percentage recorded in 1994, when the annual population growth rate reached 3,73%, then the rate of increase began to decline, reaching an annual average of 0,7% in 2014. This decline is explained by several reasons, including the high rate of age at marriage, the continuation of studies by young people and unfavorable economic conditions.

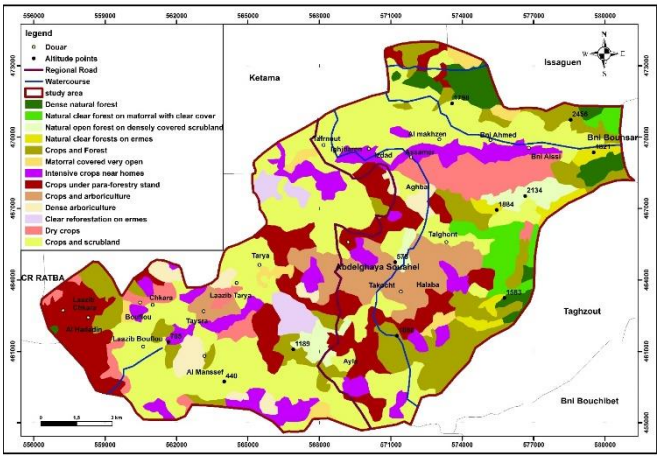
Due to the ancient human settlement in the area, this has been reflected in the population density, which has increased from 27,71 inhabitants/km² in 1960 to 105 inhabitants/km² in 2004, which has negatively reflected on the limited natural resources, which are likely to be depleted in the future. This, in turn, poses several constraints to the community, mainly related to the provision of employment opportunities, pressure on natural resources and the demand for social amenities and basic services.

***Economic resources*:** Concerning the natural and human resources of the commune of Abdelghaya Souahel, there are added economic potentialities which play a major role in the development of the commune, in particular agricultural potentialities.

The evolution undergone by the economy of the study area It is divided into two main stages marked this evolution (Boudouah, 1996); during the first period, this economy is structured on the basis of mixed farming, livestock, crafts and emigration, the second stage is characterized by an economy of speculation, linked to a monoculture: Kif.

***Agricultural potential*:** Subsistence farming before independence was diversified and capable of providing the farmer with the commodities he needed, and he marketed the surplus of his production to meet his needs. This is in parallel with the low population density that was at the time.

In the early sixties of the twentieth century, the hippie generation launched the slogan of cannabis consumption. These waves helped to draw attention to Morocco, especially the Ketama region, which became a destination for those wishing to consume kif. Thus, kif cultivation became dominant in the agricultural scene of the region.



Source: ASSESSMENT REPORT – AL WAHDA DAM/MOROCCO 2021

Figure 5. Land use map

The statistical data show that the study area has a large population and that this situation exerts a strong pressure on agricultural land, which leads to a loss of balance between the population and its local resources.

Table 5. the percentage of irrigated agriculture

Type of agriculture	Percentage
Bour	91%
Irrigated	9%
Total	100%

Source: field survey in 2019

From the field survey data, Irrigated lands constitute 9% with an estimated area of 978 hectares, compared to Bour, which constitutes 91% with an estimated area of 9887 hectares. We

also conclude that most of these irrigated lands are distributed on the banks of the Oueds, as is the case of the two Douars (Halaba and Aghjdarn). The lands far from the Oueds are mostly lands in Bour.

Most farmers farm their land directly to ensure adequate production. About 80% of the Commune's agricultural land is farmed in a traditional manner which is compatible with small-scale farming and the difficulty of the terrain which prevents the introduction of modern technologies.

The economy is structured mainly around the Kif which has a significant yield and a very interesting market value: the selling price can reach 7000 DH per quintal of raw Kif. However, this amount can vary from one douar to another depending on its geographical position and taking into account the quality of the product (Boudouah, 2017).

***Cannabis Culture and its Environmental Impact*:** Cannabis cultivation negatively affects the environment, through the uprooting of forest areas, fires to expand cannabis areas, massive pumping of water to irrigate agricultural land, soil erosion, etc. All these factors lead to environmental imbalances in the Rif Mountains.

In this stage, the great fellahin introduced new cannabis plants, such as: (Pakistana, Afghanistana, Khordala, Critical…) (Bouhlal et al., 2024). These plants require a large amount of irrigation water.

Table 6. Production of kif in the Quintal study area.

Douar	production of kif in irrigated lands Quintal		production of kif in irrigated lands Quintal Total		Total
	Nombre	%	Nombre	%	
Halaba	192	19,4	796	80,6	988
Agjadarn	432	26,7	1188	73,3	1620
Total	624	23,1	1984	76,9	2608

Source: field survey in 2019

The production of kif plays an important role in the economic and social life of the population, since we note that the production of kif in the Bour in Douar (Aghjadran) is estimated at 1188 quintals against 796 quintals in Douar (Halaba), which means that one hectare of Bour produces 4 quintals of kif, while we find this production is high in irrigated lands and reaches 9 quintals per hectare for the (Kif beldi) As for the exotic kif plant (Critical), it reaches 12 quintals per hectare. Despite the low irrigated area in the two Douars, it is noted that kif production represents a significant percentage there, reaching 26.7% in the Douar (Aghjadran) against 19.4% in the Douars (Halaba), which explains why water plays an important role in increasing kif production, in addition to fertilizers.

Morocco has enacted a new law on the legalization of cannabis in 2021 "Law 13-21 on the legal uses of cannabis" (Dahir No. 1-21-59 of 3 hija 1442 (July 14, 2021) promulgating Law. 13-21 relating to the lawful uses of cannabis.).

This law constitutes an exception to the legislative provisions prohibiting the use of cannabis, through the legalization of its cultivation, production, exploitation, industrialization, import and export. In this context, will this law contribute to reducing the impact of kif cultivation on the environment?

***The spatial impact of cannabis cultivation*:** The cultivation of Indian cannabis in the Rif Mountains is an environmentally destructive activity, especially the hybrid varieties of the Indian cannabis plant with high productivity and higher THC content, which has led to a significant decline in forest area, as the destroyed forest cover is estimated at a thousand hectares per year. This has hurt the decline of pastures, as the maximum and local expansion of cannabis cultivation has induced a sharp shrinkage of grazing areas (Al Karkouri, 2017), thus decreasing livestock production.

Especially since the intensification of livestock farming requires vast lands for grazing, and this is what often makes the inhabitants of the study area unable to own a large number of herds.

***potential strategies for transitioning to more sustainable agricultural practices and diversifying the local economy*:** As Morocco legalizes cannabis in the region, we are calling for the preservation of the local cannabis plant, which is part of the agricultural and cultural heritage of the region (Afsahi. 2017). This variety represents a long history of traditional cultivation in the Ketama and Ghomara region.

There may be a trend towards cultivating new varieties or adopting modern agricultural methods in order to increase productivity or respond to global market demands. However, this may lead to the decline or disappearance of the local kif plant, which poses a threat to biodiversity and the region's population.

In order to win the bet of sustainable territorial development and overcome the social crises and environmental impact of agriculture, it remains necessary to encourage effective and sustainable economic alternatives for farmers. The state can support the development of alternative sectors, especially other types of plants and fruit trees, and encourage recreational and environmental tourism as development alternatives that can overcome previous imbalances in the region's development models.

***The impact of climate change on the region's natural resources and agricultural*:** The climatic phenomenon due to massive human interventions and activities has led to radical changes that have affected the natural and human ecological balances of the region. It has witnessed an unprecedented rise in temperature, a significant decrease in rainfall, and the deterioration of other natural resources.

Based on statistical studies on climate change in Morocco, it has been shown that it has clearly affected natural resources in recent decades, especially at the level of depletion and decline of the water table, as the per capita share of renewable

water resources has decreased to 60% since 1960 as a result of the increase in urbanization, increasing population growth, and industrial and economic development in general (Badraoui and Riad. 2012).

Given the weakness of the underground water resources feeding the valleys in the region, the practice of agricultural activities along the banks of the SRA Valley and its tributaries and the intensive irrigation of Indian hemp cultivation contribute to the decline in the flow of the SRA Basin valleys, and thus the increase in the severity of hydrological drought, Especially in the summer.

***Climate change adaptation mechanisms*:** There are many factors that work to adapt to climate change, these factors are a combination of economic, social, natural, technological, and political factors of society, including:

- ❖ Developing crop varieties that are tolerant to climate fluctuations.
- ❖ Developing a system for insurance of agricultural crops against risks.
- ❖ Increasing the ability of crops to resist pests and diseases.
- ❖ Switching to other crops and changing planting dates.
- ❖ Improving water use efficiency systems.
- ❖ Strengthening early warning systems and forecasting seasonal climate to reduce risks.
- ❖ Increase public awareness and improve the understanding of climate and its relationship to ecosystems.

The implementation of these mechanisms requires the state to adopt programs that raise awareness of the most important mechanisms and practices for adapting to climate change, through various media and social media. In addition to directing research efforts and developing some development plans, to provide innovative mechanisms and methods to mitigate the damage of climate change, and adapt to its effects that are compatible with the nature of the region and the degree of its impact on climate change.

Environmental Protection and Sustainable Development Strategy: In 1995, Morocco adopted a new strategy for environmental protection and sustainable development, which aims to integrate the environmental dimension into the country's economic and social development plans, by stimulating investment, rehabilitating the industrial fabric, combating poverty, developing the rural world, and protecting the environment, through a broad partnership that includes the administration, the private sector, non-governmental organizations, and local communities.

On this basis, the environmental aspect was strengthened by the ratification of major environmental laws; there is a general section aimed at preserving the public interest, addressed by the Moroccan Constitution, and a specific section addressed by laws directly related to the environmental field. Examples of these laws include Law No. 11.03 on the protection and rehabilitation of the environment, Law No. 13.03 on combating air pollution, and Law 12-03 on environmental impact studies, in addition to environmental action support programmes.

In 2010, the King of the country called on the government to "prepare a national charter for the environment and sustainable development, in an integrated action plan, with precise and achievable objectives in all sectors..." This resulted in the publication in 2014 of Law No. 99.12 as a national charter for the environment and sustainable development. It gave the government the right to approve the national strategy for sustainable development (2016-2030).

***The role of actors in shaping the development trajectory of the commune*:** The development policy in the Rif Mountains was based on two factors: the cultivation of cannabis, which is rooted in the historical regions, in addition to the accumulated backwardness since the colonial period, especially with regard to infrastructure and neglect on the part of the government after colonialism, which constituted a heavy legacy that the state had to manage immediately in this region (Mouna. 2018).

Among the development programs and initiatives carried out by the state since the 1960s: (program for Rural Economic Development of the Western Rif (DERRO) (Paolo, 1978) - program for Integrated action program for the development and planning of the Moroccan Mediterranean region (PAIDAR Med) - program for Northern Development Agency. - In addition to the urgent program to rehabilitate the northern regions, which was given its launch immediately after the earthquake that hit Al -Hoceima in the year 2004).

However, the results achieved by these programs were not satisfactory and were not reflected in the affirmative of the population, with the exception of the road building project that contributed to decoding isolation. As for the other projects, its failure is due to the lack of respect for the specificity and natural conditions of the region before programming these projects, in addition to adopting the security approach and the absence of the participation of the population in the proposal of appropriate projects.

Aware of these new imbalances, the Moroccan state has engaged in a set of reforms in which it has given special importance to the development of rural areas, especially mountainous ones, as the rural world has recently been the subject of many economic development programs, and the state has allocated great efforts to it to generalize equipment and infrastructure (drinking water, electricity, roads and paths, etc.). A huge program has been allocated during the period (2017-2022) with a significant financial envelope estimated at (50 billion dirhams) to reduce spatial and social disparities in the rural environment.

Despite the modest interventions of the Moroccan State to reduce economic, social and spatial disparities, it is characterized by a selectivity that makes it neglect the dimension of sustainable development in the study area, which is reflected in the quality of life and social facilities.

All this has led to the establishment of a distance between isolated and marginalized communes in terms of development, on the one hand, and between them and some communes that have reached a decent level of development.

***Conclusion*:** From the territorial diagnosis of the physical potential of the commune of Abdelghaya Souahel, we note the diversity of physical potential concerning the plant cover, the soil and the water resources. These potentials can play an important role in the development of the commune, but the lack of valorization of these resources does not allow to attract investments that generate jobs and create wealth and contribute to the fight against poverty.

Demographically, we note that the commune has experienced population growth with a sustained rate of demographic growth from independence to the present day. This puts a strong pressure on the resources available on the ground. Indeed, the region has a population density that exceeds twice the national average with a density of 105 inhabitants / km².

Although mountainous regions are among the most complex geographical areas, they constitute a model area for coexistence between competition and integration, where the inhabitants of the region were able to control the mobilization of resources in order to exploit and preserve them, and were also able to adapt to the climatic conditions imposed by the natural framework, so a mountainous culture developed that takes into account the preservation of wealth, integration in production, and the needs of the inhabitants in terms of consumption and employment.

The economic activities of the municipality depend on the agricultural sector, mainly the exploitation of cannabis which provides a significant income to the populations. However, this agriculture has had a negative impact on the environment through the deterioration of forest areas, the depletion of water resources, soil erosion, etc. This requires:

- The State must develop economic projects to move the wheel of development in the region.
- Promote the territorial resources of the region in order to create economic prosperity and territorial development.
- Accelerate the process of legalizing kif cultivation and facilitate administrative procedures.
- Strengthen surveillance and compensate for burned forest areas with afforestation; Support sustainable agriculture.
- Strengthen and activate the role of associations working in the fields of environmental protection and sustainable development.
- Initiative to promulgate a legal system for environmental responsibility that ensures environmental protection at the required level.

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***SDG's addressed*:** Goal 15 Life on land, Which aims to protect ecosystems, manage forests sustainably, and halt land degradation. Goal 17 Partnerships for the goals, which aims to achieve partnerships between governments, the private sector and civil society.

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